

**I. Rejection of Claims 9, 11, 14 and 15 under 35 U.S.C. §102**

The Examiner has rejected Claims 9, 11, 14 and 15 under 35 U.S.C. §102(e) as being anticipated by United States Patent No. 6,380,040 to Kepler, *et al.* (Kepler). Presently, the Applicants have amended the elements of dependent Claim 13 into independent Claim 9. Accordingly, independent Claim 13 presently includes the element that the indium doped dielectric layer has an indium concentration ranging from about 1 mole weight percent to about 15 mole weight percent. The Examiner indicated, however, at page 5 of his Examiner's Action that Kepler fails to teach or suggest such an element.

Therefore, Kepler does not disclose each and every element of the claimed invention and as such, is not an anticipating reference. Because Claims 11, 14 and 15 are dependent upon Claim 9, Kepler also cannot be an anticipating reference for Claims 11, 14 and 15. Accordingly, the Applicants respectfully request the Examiner to withdraw the §102 rejection with respect to these Claims.

**II. Rejection of Claim 10 under 35 U.S.C. §103**

The Examiner has rejected Claim 10 under 35 U.S.C. §103(a) as being unpatentable over Kepler in view of United States Patent No. 6,051,884 to Papadas (Papadas). As indicated above, independent Claim 9 currently includes the element that the indium doped dielectric layer has an indium concentration ranging from about 1 mole weight percent to about 15 mole weight percent. As also indicated above, Kepler fails to teach or suggest such an element.

Similarly, Papadas fails to teach or suggest such an element. Actually, the Examiner is asserting Papadas for the sole proposition that the indium doped dielectric layer may be used as an

interlevel dielectric. Notwithstanding the accuracy of the Examiner's assertion, Papadas fails to correct the deficiencies of Kepler. Nowhere in Papadas is there a teaching or suggestion of forming an indium doped dielectric layer having an indium concentration ranging from about 1 mole weight percent to about 15 mole weight percent. Accordingly, Papadas also fails to teach or suggest such an element.

Kepler, individually or in combination with Papadas, fails to teach or suggest the invention recited in independent Claim 9 and its dependent claims, when considered as a whole. Accordingly, the combination fails to establish a prima facie case of obviousness. Claim 10 is therefore not obvious in view of Kepler and Papadas.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claim 10 under 35 U.S.C. §103(a). The Applicants therefore respectfully request the Examiner withdraw the rejection.

### **III. Rejection of Claims 12 and 13 under 35 U.S.C. §103**

The Examiner has rejected Claims 12 and 13 under 35 U.S.C. §103(a) as being unpatentable over Kepler in view of United States Patent No. 6,195,191 to Osenbach, *et al.* (Osenbach). As indicated above, independent Claim 9 includes the element that the indium doped dielectric layer has an indium concentration ranging from about 1 mole weight percent to about 15 mole weight percent. As also established above, Kepler fails to teach or suggest such an element.

The Examiner, however, is attempting to bring Osenbach in to teach the element that the indium doped dielectric layer has an indium concentration of indium oxide of 5 mole percent. First, the combination of Kepler and Osenbach is improper. Given the teachings of each of the references,

one skilled in the art would not be motivated to combine those teachings without using the present invention as a blueprint. For example, where Kepler is focused on a MOS device using a semiconductor substrate, Osenbach is focused on an electro optic device using non-centric crystals, such as lithium niobate. The two different devices, as well as their base substrates, are sufficiently different, that one skilled in the art would not cross over into the other's field of art when looking for an answer to a problem, unless that person was using the present invention as a blueprint. Those skilled in the art understand that such is not proper.

Second, even if the combination of Kepler and Osenbach were proper, which as discussed above the Applicants strongly disagree, the resulting structure after combination would not teach or suggest each and every element of independent Claim 9. Namely, the resulting structure would essentially consist of a non-centric crystal substrate, having a MOS device formed thereover, and an indium doped oxide formed over the MOS device. As the present invention specifically requires a semiconductor substrate and not a non-centric crystals substrate, the combination would fail to teach such an element. Accordingly, the combination, if proper, would fail to teach or suggest each of the elements of independent Claim 9.

Lastly, if the devices were combined as discussed above, the resulting device would be inoperable. Since the MOS device requires conduction in the channel region between the source and drain regions, and the non-centric crystal substrate would not provide such conduction, the combined device would fail to operate. For this reason, the combination is once again improper.

Accordingly, the combination of Kepler and Osenbach, for more than one reason, fails to establish a prima facie case of obviousness with respect to independent Claim 9 of the present

invention. As Claims 12 and 13 include all the elements of independent Claim 9, the combination also fails to establish a prima facie case of obviousness with respect to Claims 12 and 13.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claims 12 and 13 under 35 U.S.C. §103(a). The Applicants therefore respectfully request the Examiner withdraw the rejection.

#### **IV. Rejection of Claim 16 under 35 U.S.C. §103**

The Examiner has rejected Claim 16 under 35 U.S.C. §103(a) as being unpatentable over Kepler in view of Publication No. JP2001-195789 (JP). As established above, independent Claim 9 includes the element that the indium doped dielectric layer has an indium concentration ranging from about 1 mole weight percent to about 15 mole weight percent. As also established above, Kepler fails to teach or suggest such an element.

Similarly, JP fails to teach or suggest such an element. Actually, the Examiner is asserting JP for the sole proposition that the indium doped dielectric layer may be formed using a PVD process with a target comprising silicon dioxide and indium. First, the Examiner is required to provide a translation of enough of a portion of JP such that the Applicants may determine if JP actually teaches what the Examiner believes. Presently, the Examiner has not done so.

Second, notwithstanding the accuracy of the Examiner's assertion, JP fails to correct the deficiencies of Kepler. Nowhere in JP is there a teaching or suggestion of forming an indium doped dielectric layer having an indium concentration ranging from about 1 mole weight percent to about 15 mole weight percent. Accordingly, JP also fails to teach or suggest such an element.

Kepler, individually or in combination with JP, fails to teach or suggest the invention recited in independent Claim 9 and its dependent claims, when considered as a whole. Accordingly, the combination fails to establish a prima facie case of obviousness. Claim 16 is therefore not obvious in view of Kepler and JP.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claim 16 under 35 U.S.C. §103(a). The Applicants therefore respectfully request the Examiner withdraw the rejection.

**V. Rejection of Claim 17 under 35 U.S.C. §103**

The Examiner has rejected Claim 17 under 35 U.S.C. §103(a) as being unpatentable over Kepler in view of United States Patent No. 5,397,920 to Tran (Tran). As established above, independent Claim 9 includes the element that the indium doped dielectric layer has an indium concentration ranging from about 1 mole weight percent to about 15 mole weight percent. As also established above, Kepler fails to teach or suggest such an element.

Similarly, Tran fails to teach or suggest such an element. Actually, the Examiner is asserting Tran for the sole proposition that certain specific processing conditions (e.g., pressure, radio frequency, and gas flow rate, etc.) may be used to form the indium doped dielectric layer. Notwithstanding the accuracy of the Examiner's assertion, Tran fails to correct the deficiencies of Kepler. Nowhere in Tran is there a teaching or suggestion of forming an indium doped dielectric layer having an indium concentration ranging from about 1 mole weight percent to about 15 mole weight percent. Accordingly, Tran also fails to teach or suggest such an element.

Kepler, individually or in combination with Tran, fails to teach or suggest the invention recited in independent Claim 9 and its dependent claims, when considered as a whole. Accordingly, the combination fails to establish a prima facie case of obviousness. Claim 17 is therefore not obvious in view of Kepler and Tran.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claim 17 under 35 U.S.C. §103(a). The Applicants therefore respectfully request the Examiner withdraw the rejection.

#### **VI. Conclusion**

In view of the foregoing amendment and remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 9-12 and 14-17.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

(1) Kindly amend Claim 9 as follows:

9. (Amended) A method of manufacturing an semiconductor device, comprising:  
creating a semiconductor substrate; and

forming an indium doped dielectric layer over the semiconductor substrate, wherein said indium doped dielectric layer has an indium concentration ranging from about 1 mole weight percent to about 15 mole weight percent.

(2) Kindly amend Claim 14 as follows:

14. (Amended) The method as recited in Claim [13] 2 further including forming an active region over the semiconductor substrate, and wherein forming an indium doped dielectric layer includes forming an indium doped dielectric layer over the active region.

(3) Kindly cancel Claims 1-8, 13 and 18-20 without prejudice or disclaimer.